

REMARKS

This application has been carefully reviewed in light of the Office Action dated March 11, 2004. Claims 1 to 44 remain pending in the application, of which Claims 1, 12, 23 and 34 are independent. Reconsideration and further examination are respectfully requested.

Claims 1 to 3, 5, 6, 12 to 14, 16, 17, 23 to 25, 27, 28, 34 to 36, 38 and 39 were rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by U.S. Patent No. 5,488,670 (Suzuki), Claims 4, 15, 26 and 37 were rejected under § 103(a) over Suzuki in view of U.S. Patent No. 5,838,317 (Funada), Claims 7, 8, 18, 19, 29, 30, 40 and 41 were rejected under § 103(a) over Suzuki in view of U.S. Patent No. 5,751,921 (Fujimoto), Claims 9, 10, 20, 21, 31, 32, 42 and 43 were rejected under § 103(a) over Suzuki in view of U.S. Patent No. 6,631,207 (Hirota), and Claims 11, 22, 33 and 44 were rejected under § 103(a) over Suzuki in view of U.S. Patent No. 5,920,655 (Makita). Reconsideration and withdrawal of the rejections are respectfully requested.

The present invention concerns detection of the color of character data without using the edge portions of the character data. Conventionally, when edge portions are used to detect a character's color, errors occur due to the transition from a background color of the recording medium (white, for example) to the color of the character's edge. Thus, in the present invention, block selection is performed of objects in input image data, and each block is discriminated as to whether it is character or non-character image data. Then, a color of each block of character data is detected without utilizing edge portions of the character data. For example, portions of the block character internal to the edge portions may be used to detect either a foreground color or a background color of the

character so that an appropriate image processing technique can be used to process the character data based on the detected color. As a result, errors in judgement of the color of a text character can be reduced because the edge portions are not used to detect the character's color, but rather, the internal portions are used to detect the color.

Referring specifically to the claims, amended independent Claim 1 is an image processing method for an image processing apparatus, comprising the steps of inputting image data, performing block selection of objects in the input image data, discriminating whether each block of the input image data is character or non-character image data, detecting a color of each block of character data without utilizing edge portions of the character data, performing an image process on each block of the character data based on the detected color of the character data, performing an image process on the non-character image data, and outputting the processed image data.

Amended independent 12, 23 and 24 are apparatus, computer-executable process steps, and computer-readable medium claims, respectively, that substantially correspond to Claim 1.

The applied art, alone or in any permissible combination, is not seen to disclose or to suggest the features of Claims 1, 12, 23 and 34. In particular, the applied art is not seen to disclose or to suggest at least the feature of detecting a color of each block of discriminated character data without utilizing edge portions of the character data, and performing an image process on each block of the character data based on the detected color of the character data.

The Office Action asserts that Suzuki allegedly discloses "detecting a feature (background color or foreground color) of each block of character dat[a] without

utilizing edge portion of the character data. (col. 2 lines 53-64, col. 3 line 3-col. 4 line 55)”

However, these portions of Suzuki expressly contradict the foregoing assertion in that

Suzuki specifically uses the edge portions of character data. More specifically, Suzuki

states:

When a color character image is observed in units of small blocks *including a color edge*, it can be considered that these blocks are constituted by character color components and with background color components. Therefore, it can be considered that a color of a pixel block *including an edge portion of a color character image* is constituted by two colors, i.e., a chromatic color as a character color and an achromatic color or value as background color. (emphasis added) See column 2, lines 56 to 64.

Fig. 3A shows a block *including an edge portion of a color image*. Pixels are distributed from an origin $(a^*, b^*) = (0, 0)$ in one hue direction. As is apparent from Fig. 3A, this block is constituted by one chromatic color and an achromatic color. In this case, lightness and chromaticity have a correlation. *More specifically, a color character edge is constituted by white components and character color components*, and pixels are present on or near a line connecting a white component (which is an achromatic color component and has high lightness) and a character color component having some given lightness and chromaticity. (emphasis added) See column 3, lines 3 to 13.

Thus, Suzuki makes it abundantly clear that the text color detection is performed utilizing edge portions, whereas the present invention performs the character color detection without utilizing the edge portions. Accordingly, independent Claims 1, 12, 23 and 34 are not believed to be anticipated by Suzuki.

Funada, Fujimoto, Hirota, and Makita have all been studied but are not seen to add anything that, when combined with Suzuki, would have overcome the foregoing deficiencies of Suzuki. In this regard, even if the foregoing references are all seen to disclose what is alleged in the Office Action, none of them, when combined with Suzuki,

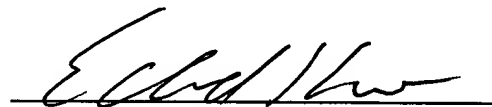
are seen to disclose or to suggest at least the feature of detecting a color of each block of discriminated character data without utilizing edge portions of the character data, and performing an image process on each block of the character data based on the detected color of the character data.

In view of the forgoing amendments and remarks, all of Claims 1 to 44 are believed to be allowable over the applied art.

No other matters having been raised, the entire application is believed to be in condition for allowance and such action is respectfully requested at the Examiner's earliest convenience.

Applicant's undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Edward A. Kmett', is written over a horizontal line.

Attorney for Applicant
Edward A. Kmett
Registration No.: 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
30 Rockefeller Plaza
New York, New York 10112-2200
Facsimile: (212) 218-2200